

Good Grain Crop Projected for 1997

A record grain crop in 1996 and falling grain prices likely will mean reduced area sown to grain crops for 1997. While China's officials will push farmers to maintain grain area, farmers likely will only partially respond, and grain output for 1997 is forecast down from the record 490-million-ton crop for 1996. Net grain imports for 1997/98 likely will parallel the 0.9-million tons for 1996/97. This change is dramatic from the 16.5 million net imports of 1995/96. [Frederick W. Crook (202) 219-0002]

Grain output for 1997 likely will decrease from the 1996 record 490-million-ton crop. Government and on-farm grain stocks rose in 1996 and grain prices fell toward the end of that year. Policy makers are maintaining pressure on farmers to hold grain area steady, but area sown to grain likely will fall. In 1997/98, China likely will be a net importer of wheat and rice but will be a net exporter of corn.

Area sown to grain for 1997 is projected to fall slightly. Wheat and soybean area likely will expand while rice and corn area likely will decrease. The Economic Research Service projects a total grain crop of 475 to 485 million tons for 1997. This output includes wheat, rice, corn, sorghum, millet, barley, oats, soybeans, potatoes, and pulses (China's definition of grain).

Output for 1996 was 490 million tons, up 5 percent from the 1995 crop of 466 million tons as yields increased by 4.2 percent and grain area increased by 1.1 percent. With regard to overall grain consumption, the State Statistical Bureau's (SSB) Statistical Yearbook, 1996 provides the most up-to-date data. Real urban living expenditures increased from 446 renminbi (RMB) in 1981 to 3,538 RMB in 1995. In the same period, data from the SSB urban household income and expenditure surveys show that urban per capita grain consumption decreased from 145 kilos in 1981 to 97 kilos in 1995.

China's planners published targets for the last year of their Ninth Five-Year Plan (FYP) (1996-2000). The total grain production target is 500-515 million tons, 10-25 million tons above the 490-million-ton figure for 1996.

Through the year 2005, China's total grain output is projected to rise primarily because of yield increases. The government will try to increase the rate of yield growth by increasing investment in such things as agricultural research and technology, seed development, pest control, and irrigation and drainage. Grain consumption is projected to rise faster than production so that China's grain exports likely will decrease and imports likely will rise.

Wheat Output Forecast To Increase in 1997

Wheat Outlook for 1997/98

Wheat output for 1997 is projected at a record 114 million tons, 3.7 million tons more than the record 1996 crop. Under the "'grain bag" responsibility system" pro-

vincial governors in fall 1996 used administrative and price mechanisms to encourage farmers to increase area sown to winter wheat. The State Statistical Bureau's 1997 survey of planting intentions suggests farmers have planted or will plant more wheat in 1997 than in 1996 by about 500,000 hectares. Farmers in south China who in the last few years left their land fallow to work in more lucrative jobs in towns and villages are now being encouraged to increase the area sown to winter wheat (3). Yields are projected at a record 3.8 tons per hectare.

In an effort to encourage farmers to raise more wheat and to increase farm income, authorities raised the government's fixed-quota price from US\$131 in January 1995 to US\$160 in June 1996. For 1997, government authorities are holding steady the fixed-quota price for wheat. From July 1994 to spring 1996, there was a substantial US\$30 to US\$80 gap between the fixed-quota price and market prices. But with the increase in the fixed-quota price in spring 1996 and the record 1996 crop, the gap closed (see figure 12).

World prices (as represented by U.S. f.o.b. hard red winter, No. 2, Gulf ports) have been well below the domestic market price (figure 12). The gap narrowed in spring 1996 and exceeded the domestic market price from March through June, when world wheat prices soared. However, by September, the U.S. export price was again well below China's domestic market prices for wheat and remained so through the end of 1996.

Urban retail standard wheat flour prices rose about 10 percent in calendar year 1996, rising from 2,690 RMB per ton in January to 2,960 RMB in December.

Wheat imports for the July/June 1997/98 year are projected to increase by 0.5 million tons to 3.5 million. Imports are projected at a low level compared with 12 million tons in 1995/96 because of large domestic stocks and a record crop in 1996 and another record crop in 1997. Imports will help meet consumer demand for higher quality and specialty wheats, and to overcome domestic transportation constraints.

China's Wheat Outlook to 2005

Up to 2005, China's wheat output is projected by the United States Department of Agriculture (USDA) to increase at an annual rate of about 0.6 percent from a base in 1997. While area is projected to fall 0.1 percent a year, yields likely will increase at a much faster pace of around

Figure 12

China's domestic wheat prices and the U.S. HRW FOB Gulf price compared

RMB/metric ton

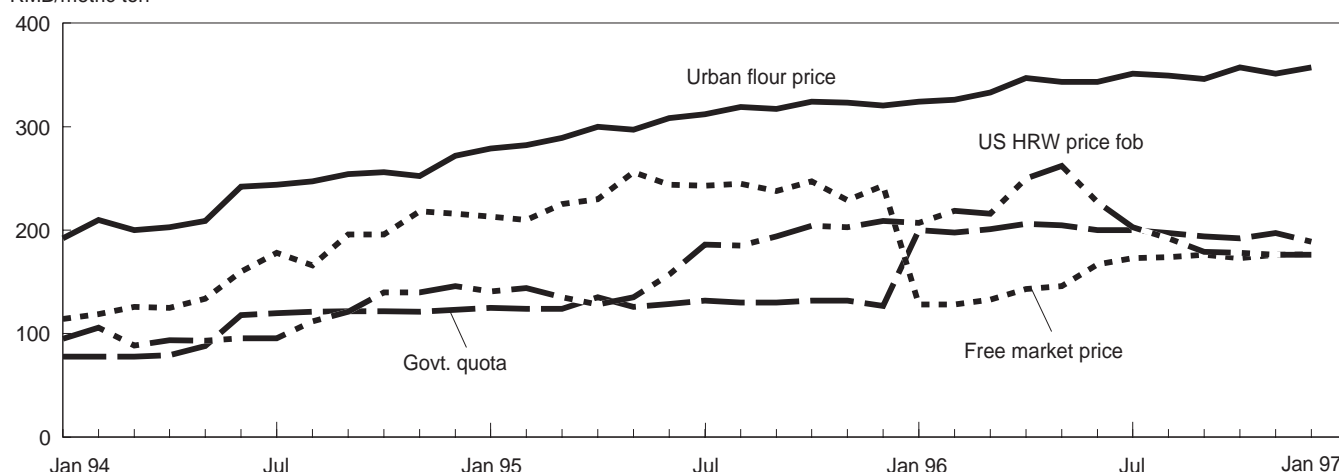


Table 13--China's grain production, trade, and stocks

Item	1995/96	1996/97	1997/98
Million metric tons			
Total grain (Jan/Dec)			
Production 1/	466.81	490.00	475-485.00
USDA definition 2/	226.72	249.63	na
Imports	15.94	5.90	na
Exports	0.86	3.50	na
Stocks	78.89	87.95	na
Wheat (Jul/Jun)			
Production	102.00	109.00	114.00
Imports	12.10	3.50	3.50
Exports	0.30	0.20	0.20
Stocks	23.73	23.03	25.83
Rice (Jan/Dec)			
Production (paddy)	185.22	191.00	na
Imports (milled) 3/	0.85	0.75	na
Exports (milled)	0.30	0.75	na
Stocks (milled)	21.46	23.21	na
Corn (Oct/Sep)			
Production	112.00	128.00	122.00
Imports	1.48	0.05	0.05
Exports	0.23	2.50	2.00
Stocks	32.70	41.00	37.00

1/ Wheat, rice (on a paddy basis), coarse grains, soybeans potatoes (grain equivalent weight using a 1:5 ratio of grain to raw weight), pulses and other grains are included in total grain.

2/ Wheat, milled rice, corn, sorghum, millet, and oats.

3/ For the 1995 rice marketing year, trade data are for calendar 1995.

Source: USDA PS&D database.

0.8 percent a year. China's seed breeders have developed several hybrid winter wheat varieties that are being field tested in major winter wheat producing provinces. In 1995, the Ministry of Agriculture test results showed yield increases of 25 percent, but it remains to be seen how these new varieties will perform in field tests (5).

Rapid economic growth rates, rising incomes, and changes in consumer preferences for quality wheat products, and a projected population growth of 100 million for the coming decade, will boost domestic demand above production. Rural per capita consumption of wheat is expected to continue to rise. But urban per capita consumption is expected to decline as residents continue to diversify their diets.

USDA projections place China's wheat imports in 2005/06 at about 15 million tons, compared with an average of 9.8 million tons during the Eighth FYP (1991-95) (7).

Wheat Situation in 1996/97

Area increased by more than 700,000 hectares to 29.6 million, and yields increased 5.4 percent to 3.73 tons per hectare in 1996 (appendix table 1). Wheat production was up 8 percent in 1996/97 (table 1) and imports fell by 75 percent. There are several factors behind the decrease in imports for 1996/97. First, the world price for wheat during some months in 1996 was considerably above China's domestic open market price. Second, domestic wheat production in 1995 and 1996 were record crops which boosted domestic supplies and stocks. Third, the government's "grain bag" policy encouraged increasing domestic grain production and reducing dependence on wheat imports.

Record Rice Crop in 1996, Lower Output for 1997

Outlook for 1997

Rice area for 1997 will likely be less than the 31.4 million hectares for 1996. The tendency to decrease rice area in favor of more profitable land use such as raising vegetables, fruits, and economic crops, will not fully offset the government's "grain bag" policy in which provincial governors are required to maintain area sown to grain (see section on agricultural policies).

Yields are expected to be about the same as last year at 6.1 metric tons per hectare. Government officials will implement measures to insure input supplies, but farmers facing low rice prices may tend to skimp on inputs for 1997.

In China's rice marketing year 1995/96, the first year indicates the marketing year, e.g., 1995 represents rice output for 1995 which is marketed in 1996. Rice imports are likely to be about the same as for the previous year and will include both high-quality varieties from Thailand destined for high-income urban residents and lower quality varieties for the urban poor. Imports for 1996/97 are forecast at 600,000 tons. China's rice exports are expected to rise to 750,000 tons in 1996/97.

Outlook for 2005

China's rice output by 2005 is projected to decrease at an annual rate of 0.4 percent a year. Area sown to paddy likely will decrease slightly (-0.4 percent) because returns from rice cultivation are projected lower than other uses, but yields are expected to increase 0.9 percent a year. Because of the under reporting of cultivated land and the over reporting of yields, actual yields are below reported yields. We believe there is some room for rice yields to increase.

China's rice exports are projected to increase slowly from around 300,000 tons in 1995/96 to 400,000 tons in 2005/06. Some of these exports will be japonica rice

shipments to East Asian neighbors and some exports of indica rice will be shipped to Asian, African, and European markets.

Rice imports are projected to increase from 850,000 tons in 1995/96 to 1.5 million tons in 2005/06. Demand for rice imports will increase largely because of rising urban incomes as consumers seek diversity and high-quality rice. But these imports likely will also include some lower quality rice to supply the requirements of lower income consumers in big cities.

Consumers in urban areas are eating less rice and more meat, fruits, vegetables, and wheat products. High income urban residents tend to shop for their rice in open free markets where they can purchase fresh domestic and imported rice varieties. Local government institutions provide subsidies for the urban poor and supplied fixed quantities of lower quality rice at fixed prices. China has been importing both low and high quality rices to supply two very different markets in urban areas.

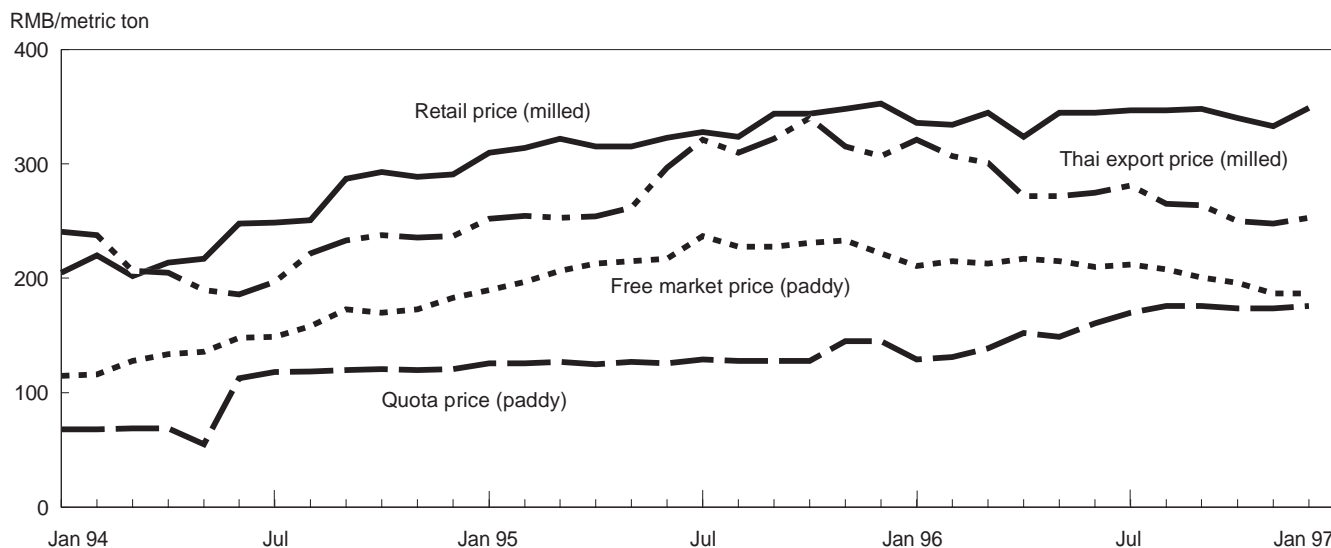
Rice consumption trends in China parallel those in Korea and Japan where one can observe static or falling per capita rice consumption. China's consumers seem to be following in the footsteps of their East Asian neighbors such that as per capita incomes rise, and more foodstuffs are available domestically, families tend to reduce rice consumption and eat more wheat products, meat, fruits, and vegetables.

Record 1996 Rice Crop

Rice output for 1996 was 195 million tons (paddy basis), up 5.3 percent from the 185-million-ton 1995 crop (appendix table 1). The primary reason for the increase stemmed from a 2-percent increase in area and a 3.2-percent increase in yields. For a detailed examination of China's four major rice crops: indica early crop; indica single and late crop; northern japonica crop; and single and late crop japonica, see the article "China's Rice Economy Segmented into Distinct Markets,"

Figure 13

China's domestic rice prices and Thailand's rice export price compared



published in *Rice: Situation and Outlook Yearbook*, USDA, ERS, Washington DC, November 1996. The japonica crop accounts for about 27 percent of China's total rice crop, while indica crops account for about 73 percent.

Urban retail prices for japonica rice fell from 3,480 RMB per ton in January to 3,210 RMB in December. Urban retail prices for indica rice fell slightly from 3,040 RMB in January to 2,970 RMB in December 1996 (figure 13).

In March 1997, we visited with researchers in China and found that the area sown to the early rice crop in 1996 rose slightly to nearly 8.3 million hectares and output increased to about 44 million tons, up a few percentage points from 1995. Consumers in southern China prefer the taste of middle and late rice crops and discriminate against early crop rice. Typically, farmers in southern China sell a large share of their early rice crop to fulfill their annual procurement quotas. Of the remainder that farmers retain on hand, we believe a large portion is fed to livestock. The state-owned Grain Bureaus purchase the early rice from farmers and, because of low demand for the crop, the Bureau puts a large portion in storage bins. Again, we believe some of this grain is fed to livestock, some is used in producing beer and pharmaceutical products, and a minor portion is used for table rice.

In March 1997, we traveled to Yunnan province and found that the province previously produced mostly indica rice, but now about two-thirds of the province's rice output comes from japonica crops. There is considerable competition in rice markets in the province at the present time for quality rice. State owned and private millers are competing to produce more attractive products for consumers: more highly polished rice, vitamin enriched rice, improved packaging, and brand names of rice varieties by location (3).

China's rice imports soared from 700,000 tons in 1993/94 to 2.0 million tons in 1994/95 but fell to 850,000 tons in 1995/96. China's custom statistics report that Thailand and Vietnam were China's prime rice suppliers in 1996.

China's rice exports dropped sharply from 1.5 million in 1993/94 to 32,000 tons in 1994/95, but rebounded to 300,000 tons in 1995/96. The fall in domestic rice prices compared with world market prices made China rice more attractive to foreign buyers. According to China's Custom Statistics, most exports in 1996 went to Hong Kong, North Korea, Libya, Mauritius, and Russia (2). Most of the rice exports were of the indica variety.

Smaller Corn Crop for 1997/98

Outlook for 1997/98

The record 127-million-ton corn crop for 1996, the fact that the open market price for corn fell from US\$180 per ton in January to US\$165 in December 1996, and higher soybean prices, likely will mean that growers will reduce area sown to corn in 1997. Area is projected to fall by almost 1 million hectares to 23.5 million hectares. Area sown to soybeans, other oilseeds, fruits, and vegetable crops likely will expand.

In January 1997, the market price was only US\$7 above the fixed quota price (the price the government purchased corn from farmers according to contract).

Corn yields are projected at 5.19 metric tons per hectare, down from the record 1996/97 yield of 5.2 tons per hectare which is projected to make a crop of 122 million tons, more than 5 million less than last year. With large corn stocks in major producing areas, farmers had difficulties selling corn in late 1996 and early 1997. Given these conditions, farmers are less likely to allocate their labor so intensely in 1997 and likely will not apply as much chemical fertilizers and pesticides as they did the year before. Corn exports for Oct./Sept. 1996/97 are projected at 2.5 million tons. Major export destinations will continue to be South Korea, North Korea, Japan, Russia, Malaysia, and other Asian ports. Imports are projected at 50,000 tons.

Outlook to 2005

China's corn output is projected to reach over 150 million tons by 2005. Area sown to corn is projected to increase at an annual average rate of 1.8 percent and yields are projected up 1.9 percent. Rapid economic growth, rising incomes with consumer preferences for livestock products, and population growth during the decade likely will boost domestic demand above production. Corn imports are projected to rise from 1.5 million tons in 1995/96 to 8.9 million tons by 2005/06. Corn exports fell from more than 12 million tons in 1992/93 to an estimated 230,000 tons in 1995/96. China's corn exports are projected to decrease from 2.5 million tons in 1996/97 to 285,000 tons by 2005/06. Most of these corn exports will come out of China's northeast provinces which is China's main corn producing area and has good transportation links to Russia, Korea, and Japan (2).

Record Corn Crop in 1996

Corn output in 1996 was a record 127 million tons, up 13 percent from the 1995 crop. Area increased 7.5 percent to 24.5 million hectares. Large inputs of chemical fertilizer, especially phosphate fertilizers, supported the 5.8 percent increase in yields which reached an estimated 5.2 tons per hectare.

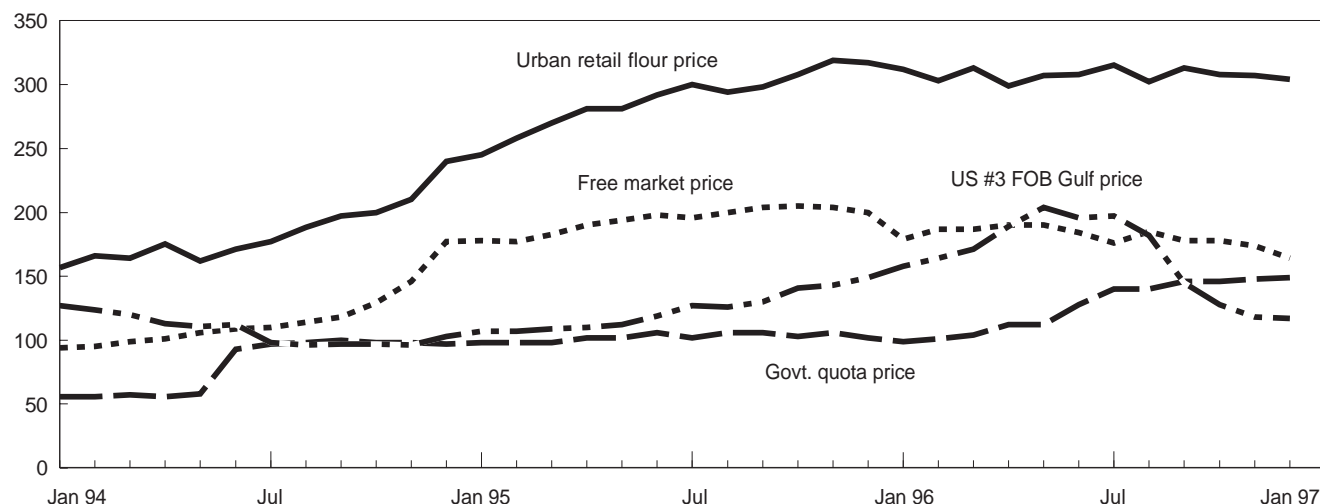
In 1993/94, China exported 11.8 million tons of corn with no imports. In 1994/95, however, China's corn trade shifted dramatically, with exports of 1.4 million tons but imports of 4.3 million tons. In 1995/96, China exported 227,000 tons while imports fell to 1.5 million tons. In 1996/97, corn exports are projected to increase to 2.5 million tons and imports to fall to 50,000 tons.

The switch from net exports to net imports and then back to a net exporter stems from several developments. First, earlier in the 1990's, the government reduced its subsidies for government grain companies holding corn stocks. This policy change encouraged firms to dump corn into the market which temporarily boosted supplies for livestock feed

Figure 14

China's domestic corn prices and U.S. #3 FOB Gulf price compared

US\$/metric ton



and for export. Second, government authorities boosted corn procurement prices in 1994 and 1995, which set off price increases throughout the corn economy (figure 14). Domestic corn prices quickly shot above the world price and corn exports declined. Third, the demand for livestock products, and consequently for feed, continued to rise rapidly because of increases in population and urban incomes. In fall 1994, foreign trade authorities issued instructions to ban corn exports, and in December China contracted to purchase corn on the international market. In 1995, China's state trading corporation COFCO (Cereals, Oils and Foodstuffs Import and Export Corporation, which used to be known as CEROILS) limited corn exports and purchased corn on the international market.

Interest in exporting corn resurfaced with the record 1995 corn crop and very high international corn prices in mid-1996, and China's domestic corn prices were below world prices. China could have exported large quantities at high prices but its leaders chose to limit exports, and within the policy guidelines set by the governor's "grain bag" responsibility system, transferred corn surplus northern provinces to feed grain deficit provinces in the south. With a record corn crop in 1996, along with full granaries and domestic prices just above the world price, China again has begun to export corn.

Barley

For 1996, USDA estimates that farmers sowed 1.3 million hectares of land to barley and harvested a 4-million-ton crop. Barley imports rose in 1996/97 to an estimated 2 million tons, up from the 1.4 million tons of imports in 1995/96.

New data from China permitted ERS to revise China's area and production of barley from the mid-1980s to the present (6). The general effect with respect to the previous estimates has been to increase the estimated area,

decrease the estimated yields slightly, and increase output slightly.

In calendar year 1996, China imported 1.3 million tons of barley, the same as in 1995. Most of the imported barley is for brewing purposes. Canada and Australia were the primary sources for these imports.

Little official data has been published regarding how China's barley supply is consumed. USDA estimates that about 40 percent of total barley supply is used to brew beer and 20 percent is used for animal feed. The remaining 40 percent is used for human consumption and for other uses.

Most of China's barley output comes from Jiangsu and Zhejiang provinces. Given the fact that both these provinces do not produce an abundance of feed grains, it is likely that a greater portion of total supply is used for feed and less for human consumption and other uses. Meetings with provincial officials in these areas suggest their barley crops are often harvested during the spring monsoon. The heavy rains often damage the quality of the barley, making it less useful as a grain for brewing beer.

Table 14--China's dry peas and bean area and output

Year	Area	Yield	Production
	1,000 hectares	MT/hectare	1,000 tons
1993	2,924	1.43	4,176
1994	3,515	1.41	4,958
1995	3,106	1.40	4,369

Source: China Agriculture Yearbook, various issues.

Beer production for 1996 reached 16.3 million tons, up 5.6 percent from 1995. The Ninth Five-Year Plan target is 20 million tons. ERS estimates that a good portion of early rice in grain reserves is eventually used to brew beer. In 1995 annual urban per capita beer consumption totaled 5.8 kilograms.

Dry Peas and Beans

Area and production data for dry peas and beans have only been published since 1994 as follows.

Dry pea and bean exports rose from 799,000 tons in 1993 to 1.5 million in 1994, fell to 1 million in 1995 and decreased to 576,000 tons in 1996. Two factors help to explain the decrease in exports. First, cadres implementing the “governor’s “grain bag” responsibility system” may have put pressure on farmers to switch to wheat, rice, and corn whose yields are 4.3, 3.7, and 5.4 tons per hectare respectively, compared with 1.4 tons per hectare for dry peas and beans. If cadres pressed farmers to reach grain weight procurement quota targets, then farmers could have achieved those targets more effectively by planting corn rather than beans. According to SSB’s *A Statistical Survey of China, 1997*, area sown to beans (soybeans and dry peas and beans) fell from 11.2 million hectares in 1995 to 10.6 million in 1996, a decrease of 600,000 hectares. A second factor is the rapid growth in domestic demand for direct consumption of dry peas and beans and indirect consumption of products made from peas and beans which gives consumers with higher incomes greater diversity in their diets. Also, with the growth in demand for livestock products, there has been a commensurate increase in the demand for protein meals. Some beans such as broad beans can be used as a protein meal. The fall in dry pea and bean exports may be in part attributable to decreased output and increased domestic demand for these products.

The first provincial level dry bean data was published in the *Agricultural Yearbook, 1996*. In 1995, broad bean area totaled 963,000 hectares and output totalled 4.9 million tons. Sichuan province produced 3.3 million tons, accounting for two-thirds of total output. Other major producers were Yunnan, Jiangsu, Hubei, and Gansu provinces. In March 1997, the author visited Yunnan province and found that broad beans, along with winter wheat, were the primary over wintering crops in the province. Local specialists and farmers reported that broad beans provide livestock producers with a good source of protein meal, the plant has nitrogen fixing properties, and farmers can feed the stalks to ruminant animals. The leaves of the plant and beans also can be eaten as a vegetable when green and tender.

Local officials reported that a portion of the dried beans are shipped out of the province for export. From 1991 through 1995, broad bean exports averaged 322,000 tons a year. But in 1996 exports dropped to 93,000 tons (see appendix table 11). Major export destinations include Egypt and Italy. One possible explanation for the fall in exports is that domestic demand for protein meals increased sharply in the last few years, and farmers and millers are beginning to use broad beans as a protein meal. In the past few years ERS analysts have visited a number of farms in Yunnan province and found farmers using broad beans as a protein meal (3).

In 1995, kidney bean area was 1.6 million hectares with output at 496,000 tons. Henan province is the largest producer with 145,000 tons. Other major producers are Jilin and Yunnan provinces. China exported an average 330,000 tons of kidney beans from 1991-95. In 1996, kidney bean exports dropped to 270,000 tons. Major export destinations include Cuba, South Africa, Pakistan, and Italy.

In 1995, area sown to meng beans totalled 1.4 million hectares and output reached 594,000 tons. Henan is China’s largest producer of meng beans with 108,000 tons. Other primary producers include Jilin, Sichuan, and Shaanxi provinces. From 1991 to 1995, China exported an average of 118,000 tons of meng beans a year. For 1996, meng bean exports dropped to 81,000 tons. Major export destinations for meng and adzuki beans include Japan and South Korea.

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